

## AM-4531 POWER AMP



AM-4531/GR VHF LINEAR POWER AMPLIFIER by Granger Associates; designed for 120 to 152 MHz range to deliver 50 watt output from 10 W input. Uses 8122 tube in P-A. Has 2.5" rd multimeter with seven position switch to monitor Plate to 2 KV, Screen to 1 KV, Plate RF Peak to 1 KV, Bias to -100 V, Forward Power to 100 W, and Reflected Power to 100 W. Also 2.5" rd 0-300 ma Plate Current meter, Loading and Coupling controls each with lock, and Bias Adjust. Requires 105/115/130/210/230/260 VAC 47-400 Hz. 7x19x14.5, 50 lbs. Used-not tested, \$195.

## DP ANTENNA TRANSFER

DOUBLE POLE ANTENNA TRANSFER RELAY ASSEMBLY used with AM-4831 power amp; consists of two ganged Amphenol 360-11896-1003 SPDT antenna relays that can be separated. Each is rated 500 watts CW (0-0.5 GHz), 100 W (0.5-3 GHz), or 50 W (3-6 GHz). 115 VAC coils; each with N and 2-BNC connections. 5x3.5x1.5, 2 lbs. #GR-0017094, \$24.95



## JENNINGS UCS-300-7.5

JENNINGS UCS-300-7.5 VACUUM VARIABLE CAPACITOR rated 9-300 pf, 7500 V maximum. Has standard type tuning shaft and flange mount; 3.25" dia X 8.75" long, 3 lbs sh. Unused, \$99.95

## COLLINS ANTENNA TUNER

COLLINS 180Y-1 ANTENNA TUNER, designed for use with 2-30 MHz medium power transmitter. Consists of variable capacitor with sections 50-1600 and 25-600 pf (0.065" min/0.156" max air gap), 2.9" dia 14-turn roller inductor of 0.19" dia silver-plated tubing, large ceramic tap switch, and 3 ea 100 pf 7500 V Centralab 850 capacitors. Controls C Selector 2-3, 3-9, 9-30 MHz; Var C 0-100; L Select 2-2.6, 2-2.6L, 2.6-3, 3-4, 4-5, 5-6-8, 8-10, 10-14, 14-20, 20-30 MHz; and Var L vernier. 7x12.5x16.8, 33 lbs. Used, \$99.50



**Fair Radio Sales Co.**  
1016 E. EUREKA ST. P. O. BOX 1105  
Lima, Ohio 45802

PHONE: 419/227-6573



**GOD IS JUST  
A PRAYER AWAY**



## AN/GRC-109 RADIO

AN/GRC-109 RADIO SET, compact Special Forces communication set consisting of receiver, transmitter, and two power supply units described below; each in black cast aluminum cases w/cover. 65 lbs; used-reparable \$109.50

R-1004/GRC-109 RECEIVER, covers 3 to 24 MHz AM-CW in bands 3-6, 6-12, and 12-24 MHz; 455 KHz IF. Bandwidth 9 KHz. Sensitivity: 5 uv for 10 db signal:noise. 30 MW audio output into 4000 ohms. W/tubes 4/17A, 1U5, 1L6. Requires 1.5 VDC 300 ma and 90-108 VDC 20 ma 8.6x5.5x5.5, 12 lbs sh.

T-784/GRC-109 TRANSMITTER, 3 to 22 MHz CW in bands 3-6, 6-10, 10-17, and 17-22 MHz at 10-15 watts depending on frequency. Crystal frequency control; tuned by adjusting three panel controls according to tuning chart. Has built-in CW key and provision for use with automatic high-speed GRA-71 code-burst keyer (not available). Uses single wire antenna with impedance of 72-1200 ohms. W/tubes 2E26, 6AC7. Requires 450 VDC 100 ma and 6.3 V 1.2 A; 8.6x5.5x5.5, 11 lbs.

PP-2684/GRC-109 POWER SUPPLY, provides all voltages for Rx and Tx plus 6 VDC 3.8 amp battery charge from inputs 75-260 VAC 40-400 Hz, 6.3 VDC 13 amps, or G-43 generator input. 10x8.5x5.5, 28 lbs sh.

PP-2685/GRC-109 POWER SUPPLY, powers Rx and Tx from 75-260 VAC 40-400 Hz input only. 8.6x5.5x5.5, 14 lbs sh. MANUAL for GRC-109, partial repro, \$12.00 CN-690/GRC-109 VOLTAGE REGULATOR, required when set powered by generator, \$12.00 CY-4621 ACCESSORY CASE, 3 lbs, \$6.00

## ULTRA-LIGHT HEADSET

NORTHERN TELECOM VENTURE I ULTRA LIGHT HEADSET-BOOM MIC, boom fits over ear and audio heard through a disposable earplug. 2-prong plug has built-in impedance matcher. Coil cord with on-off mic switch will stretch to 7 ft. 9 VDC req for intercom, etc. Used \$19.95



RETURN POSTAGE  
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U. S. POSTAGE  
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Permit No. 74

## UNIVERSAL BRIDGE

ZM-11 TEST SET, portable bridge unit designed to measure capacitance, inductance, resistance, transformer turn ratio, dissipation factors of inductors and capacitors, and storage factors of inductors—all at 1 KHz test frequency. Also insulation and leakage of electrolytics in circuit using 10.75 MHz test frequency. Capacitance range: 10 pf-10 mf, 1 mf-100 mf, 10 mf-1100 mf. Inductance: 0.1 mH-1 H, 1 H-10 H, 10 H-110 H. Insulation DC res: 200-500 Megohm, 5K-10K Meg ohm. Transformer turn ratio: 0.01-110 (K=1). DC leakage: 0-1-5-25 MA. Dissipation: 0-0.06 (10 pf-0.1 mf), 0-0.6 (0.1 mf-1100 mf). Q Storage: 0.5-20. DC applied to electrolytics is 0-500 VDC. Uses test leads with standard banana jacks. (Leads not available.) W/tubes 6E5, 6J6, 2/6AV6, 6AG5, 6AL5, and 6X4. Requires 115 VAC 50-1000 Hz; 5.8x9x9.8, 18 lbs. Used-reparable, \$85; Checked, \$115.00 MANUAL for ZM-11, partial repro, \$8.50

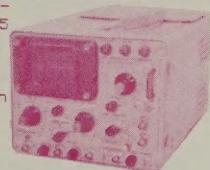


## PP-281 SUPPLY

PP-281/GRC 12 VDC MODULAR POWER SUPPLY, hard-to-find item plugs into and allows 12 VDC operation of R-108-109-110 receivers and RT-70/AM-65 transceiver combo. 6 lbs sh. Unused \$20.95 PP-282 24 VDC SUPPLY new \$8.

## SOLID-STATE SCOPE

OS-106/USM-117 TRANSISTORIZED OSCILLOSCOPE, DC to 5 MHz bandwidth, 4QP2 rectangular CRT, and is very compact. Includes MX-2996 high gain vertical plug-in plus has dual-trace capabilities when used with MX-2995 plug-in (not included). Sweep range 0.1 usec to 0.1 sec in 19 calibrated steps in 1-2-5-10 sequence. Vertical sensitivity: 0.01 v/div to 20 v/div in 11 calibrated steps in 1-2-5-10 sequence, variable to 50 v/div. Input impedance 1 Megohm shunted by 47 pf. Calibrator generates 1 KHz square wave at either 0.04 or 0.4 V p-p. Probe not available. Requires 115 VAC 50-60 or 400 Hz. 8.5x9.8x15; 20 lbs sh. Used-reparable, \$165.00 Checked, \$265.00; Manual-partial repro, \$15. MX-2995 DUAL-TRACE PLUG-IN, \$100 w/set purch.



## WS-84 CATALOG SUPPLEMENT

**3-LINE 3-HOLD DESK PHONE**  
AUTOMATIC ELECTRIC MODEL 87 3-LINE 3-HOLD TELEPHONE with rotary dial; standard desk style phone permits usage of up to three lines each with separate line "hold" button. Includes handset with coil cord, 5' cable with terminal lug connections, and mounting hardware. Black only; 6 lbs sh. Unused, \$27.95

GOOSENECK LAMP EXTENSION with mini-bayonet lamp-holder. 1.1" dia right angle lens rotates 360°; 6.5" lg flexible section has 2-contact base. 0/4 10.5" lg; #GN-LA-EXT used \$3; 2/\$5.

**PRICES ARE F.O.B. LIMA  
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USE YOUR MASTERCARD OR VISA.  
STORE HOURS: Monday thru Friday 9 to 5:30  
Saturday 9 to 1:00**

## PANEL METERS



0-150 ADC/0-75 VDC DUAL SCALE METER, full scale = 150 MV with zero adjust. 2.3" x 2.8" size; mounts into 2.3" dia hole. Misicorp model 1921-M1031; #JB-150-75 unused \$5.95

CLEAR PLASTIC 4.3" x 4.8" METERS made for Western Electric by Weston or Triplet; mount in 2.8" dia hole. Used \$10 ea.

Specify scale choice:  
0-5 amps DC (FS=5 ADC)  
0-50 amps DC (FS=50 MV)  
0-500 amps DC (FS=50 MV)  
10-15 volts DC; 0-20 VDC; 0-300 volts DC

CLEAR PLASTIC 3.5" dia METERS made for Western Electric by Weston; 2.8" dia mtg. Used. 0-10 or 0-15 amps DC, \$10 ea. 0-50 ADC (FS=50 mv), \$6.95 0-30 VDC, \$7.95; 0-100 VDC \$6. 7.5-15 VDC, \$7.95

## 12 VDC 4 AH NICAD

12 VDC 4 AMP HOUR NICAD BATTERY PACK, ten high quality stainless steel 2.3x2.9x0.6 1.2 V cells form 2.5" x 3" x 7" pack. Recommended charge: 400 ma over 15 hours. Rear-range cells to adapt to your size requirements; 6 lbs sh. GE #42B004KA01, Used \$25.00



## FUSES & FUSEHOLDERS

SAG, 1 amp, 10/\$1.00  
1 amp slo-blo 10/\$1.25  
TRON KAA 80, 80 amp 300 V; 2.6x1" dia blade-lug type, \$2.50 ea  
CEFCO FI9, 100 A 250 V; 3.6x1" dia, 5.8" long with blades, \$2.00 ea  
AIRCRAFT TYPE 32084-B, 120 A 125 V; 2.6x1" dia, 4" long with lug blade, \$2.00 ea  
BUSS ACK150, 150 A 125 V; 2.6x1" dia, 4.3" long with lug-blade, \$3.00 ea  
GE 1488, 200 A 250 V; 4.3x1.8" dia, 7.5" long with blade, \$3.50 ea  
SHAWMUT A6Y175, 175 A 600 V AC-DC current limiting; 2.5x1.5" dia, 9.8" lg w/blade \$4.  
BUSS HVC2, 3000 V 2 A cartridge-type; 5.5x.4" dia, \$2 ea 5/\$8.  
GE EJO-1 Size D, 4800 V 100E amp 5 KV max; cartridge 12"x2.9" dia, 10 lbs sh, \$10.00

IN-LINE FUSEHOLDERS  
for SAG, 5 for \$1.00  
TRON HEC 60 A 300 V  
IN-LINE, \$1.25 ea  
WHITE PORCELAIN FUSEHOLDERS,  
#3-WH-FUH for 3/1.5" x .4" dia  
fuse 2.9x2.9x1.4 \$3.50 ea  
#2-WH-FUH as above but double;  
2x2.9x1.4, used, \$2.50  
#1-WH-FUH for single 2" x .5"  
dia fuse; o/a 1.5x3.3x2.9, used, \$2.00



## QUICK-DISCONNECT

HAR-COR'S QUICK DISCONNECT KIT, for easy and clean hook-up of accessory power leads. Includes one mated pair 2-conductor connectors & four 3M #558 crimp connectors for #18-#22 AWG wire. In display packet, \$1.50 ea; 10/\$12. 3M #560 CRIMP f/#14-#18 wire, 4/1; 100/\$15.

## 20 HZ STATIC RINGER

20 HZ INVERTER MODULE, used in telephone equipment to produce 20 Hz 65 volt 50 ma ringing signal from 110 VDC 65 ma input. 3.4x2x3, 2 lbs. #E10/TA182 used \$7.95



## PATCH PANEL

SWITCHBOARD PATCH PANEL w/24 pairs of normally open receptacles; 2.1x17.8x3.8, 6 lbs sh. #24-SWB-PP, used, \$18.00

## HEAD & MIC SETS



H-157/AIC HEADSET w/BOOM MIC, part of AIC-10 aircraft inter-communication system and used in high DB situations. Has adjustable 3.5 ohm mic and boom and two earphones (10 ohm parallel impedance) with vinyl-covered foam cushions. Also 28" cord with 4-circuit U-174 plug. 4 lbs sh. Used, \$18.95

H-161 1000 ohm HEADSET with 300 ohm BOOM MIC for VRC-12 equipment. Has CX-8562 cable and switch; 4 lbs sh. Used, \$19.95  
CX-8650 "Y" COIL CORD w/2 U-182 conn., \$10.

H-161 with CX-8652, unused \$4.00  
CCSP-49885 2000 ohm HEADSET with adjustable rubber-padded headband and six foot "Y" cord and PL-55 plug. 2 lbs sh; #5965-400-3118, unused, \$5.95  
M301 CHAMOIS CUSHIONS, \$2.25/pr

HS-33 600 OHM HEADSET with U.S. made HB-7 brown leather headband, 18" cord & PL-354 plug. Used-excellent, \$16



## PHONE HANDSET

TELEPHONE HANDSET with receive and transmit elements and coil cord. Black only; various mfg. 2 lbs sh. Used, \$3. WESTERN ELECTRIC mfg black handset, used, \$4.

## TRANSIT CASES

CV-425 ALUMINUM CASE with rounded corners; sturdy single compartment construction with hasp-type fasteners. Interior 9.3x10x5.8, 6 lbs sh. Used \$6.00

CY-693/PDR ALUMINUM CASE, four compartments 3.5x4, 7.5x4, 1.8x4, and 13x6.5; may be removed for 13x10 size 9" deep. Hinged top with hasp fasteners; may need repainting. 12 lbs sh; used, \$6.00

FIBERGLASS CASE with carrying handle and six hasp fasteners; lid not hinged. Lower section 13.5x8x9; cover 3.5" deep. Has fittings and rubber shocks to be removed. #FIB-SR-684 11 lbs sh; used, \$7 ea; 3/\$17.

#CS-TH-14 ALUMINUM TRANSIT CASE with hasp fasteners; interior 17.5x19.5x8, 22 lbs sh wt; used, \$10.00

#CS-AM-708 ALUMINUM TRANSIT CASE, as above but interior 17.5x19.5x16; 40 lbs, \$15.00

**LIQUID TEMP**  
40° to 140° FAHRENHEIT WATER TEMPERATURE METER, 3.8" dia; expanded scale. Has 15" capillary which threads into 0.6" or 0.7" dia orifice. Also 18" capillary pipe. Ille #21223, \$9.95

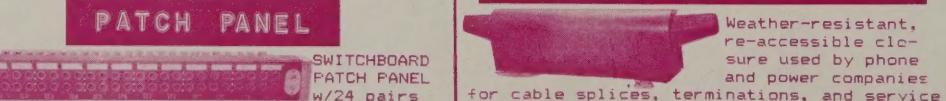
## U226 CONNECTOR

U-226 HEAVY DUTY CONNECTOR, 10 contacts (5-male/5-female) each gold-plated 0.1" dia. Contact arrangement so that U226 mates with another U226. Also has locking cap. 2.8" dia x 5.5" long plus 4" sleeve; 2 lbs sh. Unused-cutoff, \$5 ea; 2/\$8.00



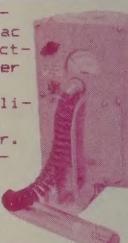
## AERIAL CABLE CLOSURE

Weather-resistant, re-accessible closure used by phone and power companies for cable splices, terminations, and service drops. Takes up to 30 lines; w/hardware. 7.5x3.3x4.5, 7 lbs. Cook #81-1524, NEW, \$22.95



## PDR-27 RADIACT SET

AN/PDR-27 PORTABLE RADIATION DETECTOR consisting of IM-74 radiac meter and DT-53 or similar detector or probe with BS-1 Geiger-Mueller tube. Meter indicates amount of beta and gamma radiation in milliroentgens per hour. Range scale 0.5, 5, 50, and 500 M-rtgs/hour. BNC connection for headset monitoring. Requires 13.5, 22.5, and 1.5 VDC originally supplied by batteries (not available). Bx6 x12.5; 15 lbs sh. Used, \$29.95  
MANUAL for PDR-27, original, \$5.00  
SPARE GM TUBES, BS-1 \$7.50; BS-2, \$6.00  
TRANSIT CASE for PDR-27, \$6.00  
H-43 HEADSET for PDR-27, \$5.95



## VOLUME & CURRENT LEVEL

NORTHERN RADIO MODEL 254 VOLUME and CURRENT LEVEL INDICATOR with 34-step, 2 db per step attenuator marked -40-0+26 db. Volume meter indicates -20 to +3 db. Has input transformer 20-40000 Hz ±0.7 db 7500 ohms. Select either terminating or bridge input. Current meter shows 75-0-75 MA DC. W/tubes 6A2, 6C4, 6X4, 12AU7. Requires 115/230 Vac 60 Hz. 5.3x19x7.5, 18 lbs. Used-reparable w/book \$32; unused \$50.

## 4 GHZ TEST EQUIPMENT

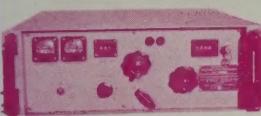
WESTERN ELECTRIC J68345C RF SWEEP OSCILLATOR for 3.7 to 4.3 GHz range used originally to test microwave telephone installations. Has 416B tubes as oscillator, waveguide output port, and controls for Plate Tune, Output, Feedback Tune, Sweep, IF-RF Cal, Sweep Norm-Rev, AT13 In and AT13 Out jacks. Also meter for IF-RF-250 V-I -I monitor and push button attenuator 3-4-5-6-13. Requires 115 VAC 60 Hz. 10.3x19x9.3, 38 lbs. Used, \$75.00

WESTERN ELECTRIC KS-15658 NOISE-FIGURE TEST SET for 3.7 to 4.3 GHz; controls Start-Stop, Lamp Current Adjust, 0-250 MA meter, +150 V test, and Input-Output ports. Requires 115 VAC 60 Hz. 8.5x9x7.5, 20 lbs sh. Used, \$45.00

**WAVEGUIDE TO COAX**  
WAVELINE 30065 WAVEGUIDE ADAPTER, WR-187 (UG-406B) to type N coax connection for 3.95-5.85 GHz range. 5x3.6" dia; used, \$14.95

COMMERCIAL TEST EQUIPMENT, used-reparable: GENERAL RADIO 650A Impedance Bridge, \$99.50; GR 650A with AC Power Supply-Oscillator \$130 GR 155BA Octave Band Analyzer, \$175.00 HEWLETT-PACKARD 130C DC-500 KHz Scope with manual; repairable, \$145. Checked, \$195.00 H-P 175A DC-50 MHz Scope w/dual-trace, \$315. H-P 206A Audio Generator, 20 Hz-20 KHz; metered, designed distortion ±0.1%, \$150.00 H-P 412A DC Voltmeter, 13 ranges full scale 1 mv to 1000 VDC; also 1 ua to 1 amp, 1 ohm to 1 Megohm, repairable \$100. Checked, \$140. H-P 2401C Integrating DVM, 6-digit 0.1-1000 VDC in five ranges; designed ±0.01%, \$225. H-P 2901A Input Scanner Programmer, \$250.00 H-P 2911A Guarded Crossbar Scanner, \$495.00 H-P 3440A DVM with 3443 High Gain plug-in 4-digits to 999.9 in five ranges, \$125.00 H-P 3460B DVM, 5 digit to 999.99 VDC in four ranges; designed accuracy ±0.004%, \$295.00 TEKTRONIX 545A Scope with CA dual trace plug-in, DC-24 MHz, \$295. Checked, \$375.00 TEK 585A Scope with Type B2 dual trace plug-in, DC-85 MHz, \$365. Checked, \$435.00 TEK 7A15 DC-80 MHz Single Trace Amplifier (AM-6565) for 7000-Series scopes, \$145.00

## COUNTERMEASURES



R-1125/R-1230 COUNTERMEASURES RECEIVER for 2-32 MHz in bands 2-4, 4-8, 8-16, 16-32 MHz. Designed for direction finding purposes and features frequency stability of 3 parts/10<sup>6</sup> ±50 Hz. Sensitivity 3.5 uv max input for 10 db signal + noise/noise. First IF 1625-1725 KHz, 2nd 220 KHz, and 3rd 65 KHz. Separate Megacycle and Kilocycle 3-digit mechanical tuning counters in 100 KHz increments plus VFO for continuous tune. Meters for Signal Strength and 100 KHz Tune and controls for AGC, Output Level, and Hi-Lo DF. Unit has 65 KHz output with 60 KHz bandwidth only; does not have onboard detector or audio amplifier. External 100 KHz reference signal required for tuning control. With tubes 6/5654, 5670, 3/5749, 4/5750, 6005, 13/7586 nuvistors, and 13 semiconductors. Requires 175 VDC, 5 V (lights), 6.3 V (fil.), 18 V (freq-circuit), and 115 V (100 KHz) osc originally supplied by 0-928/FLR oscillator power supply (not available). 6.2x19x24.5, 70 lbs. Used-reparable w/repro book, \$115.00

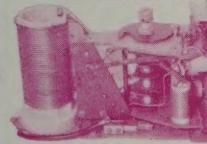
## TRANSMATCH - SWR METER

CU-737/URC COLLINS COUP- LER MONITOR, consists of detachable transmatch and SWR meter.



Transmatch assembly has Johnson 229-201 10 uH roller inductor, 600 pf variable capacitor, and 2x5 Centralab 850 100 pf HV capacitors. Also vernier dial for inductor, Hi-Lo impedance switch, and 0-500-1000 pf parallel capacitance load switch. Power/SWR monitor has 3.5" sq meter and ranges 0-100-1000 watt Forward and Reflected. Also 4" monitor speaker and detector module with type N connections. 5x19x9, 16 lbs sh. Used, \$75.00

## OUTPUT NETWORK



OUTPUT NETWORK ASSEMBLY from ART-13 transmitter originally used with 200 pf variable capacitor and L112 variotometer to provide Pi and L matching of B13 tube over 3-18 MHz using 17-60' antenna. With 57 uH coil tapped 2-6-15-24-34 uH, coil tap switch, and 7-Centralab 850 HV capacitors 25 pf, 3/50 pf, 3/67 pf. 5.5k 8x3.5, 7 lbs sh. #ONET/ART-13, used, \$12.00

## R-174/GRR RECEIVER

R-174/GRR-5 RECEIVER. 1.5 to 18 MHz AM-CW in four bands continuously tuned or ten preset channels; 455 KHz IF and 200 KHz crystal calibrator. Requires 90 VDC and 1.5 VDC which was originally supplied by FP-308 power supply (not available). Has 8 or 600 ohm audio, BFO, and tubes 3V4, 3/1R5, 3/1L4, and 1U5. As shown; no outer case. 5.3x12x8, 23 lbs sh. Used, \$29.95 11-pin POWER/AUDIO PLUG, \$3 w/set purchase. MANUAL for AN/GRR-5 (R-174/FP-308), \$7.50 CY-615 CABINET for R-174/FP-308, used, \$9.00

## DF LOOP ANTENNA

AT-249/GRD DIRECTION FINDER LOOP ANTENNA originally used with RT-196/PRC-6 walkie-talkie for homing purposes. Operates over 47 to 56 MHz FM continuously tunable. Collapsible loop measures 14.7x14.7' extended; 20" H including handle. Controls Tune, Normal-Sense, Atten 1-2-3-4; 54" BNC cable, and CW-204 8.1x5.5x16.5 canvas carrying bag w/strap. 7 lbs sh. Unused, \$12.00

## ARC-3 AIRCRAFT RADIO



T-67/ARC-3 TRANSMITTER, post-WW-II VHF set covers 100-156 MHz AM using 8 preset crystal-controlled channels; 8 W power output. Uses DC-11-16-26 or CR-1 type crystals (not included).

With tubes 2/832, 2/6L6, 3/6V6, 6J5, 12SH7. Requires 24 VDC and 410 VDC 325 ma. 7.5x12.3x15.3, 24 lbs sh. Used, \$24.95

R-77/ARC-3 VHF RECEIVER, companion to T-67 and also operates on 8 preset crystal-controlled channels (not supplied). With tubes six 6AK5, 3/125G7, 2/12SN7, 12SH7, 12SL7, 12A6, 12H6, 9001, 9002. Requires 24 VDC and 210 VDC 210 ma. 6x11x14.3, 24 lbs sh. Used, \$22.95

SCHEMATIC for T-67 or R-77, \$1.50 each.

C-118/ARC-3 CONTROL BOX, for channel selection, mic, and headset jacks; \$8 w/set.

C-197/ARC-3 AUDIO CONTROL, unused, \$4.00

CONNECTORS for T-67 and R-77, \$2.50 each.

DY-21 and DY-22 24 VDC DYNAMOTORS, -WRITE.

J-68/ARC-3 POWER JUNCTION BOX, holds dynamotors (not included); 9 lbs sh. Used, \$9.95



## VIDEO DISPLAY



MOTOROLA 12" VIDEO DISPLAY CHASSIS with 12ST5427 P-31A or equal CRT. Transistorized unit originally had external sync and vertical/horizontal circuitry. However, circuit board does allow for your installation of transistors, diodes, resistors, capacitors to provide composite video input. Requires 115/230 VAC 50-60 Hz. Info for composite video circuitry included. 12.5x10x9, 27 lbs sh. #XM351-406, unused, \$24.95

## 8048 CPU KEYBOARDS

MICROPROCESSOR CONTROLLED KEYBOARDS, features P8048 controller, an 8-bit CPU, ROM, RAM, I/O package with 1x8 ROM, 64x8 RAM, and 27 I/O lines. Compatible with 8000 Series peripherals; 5 V required. With 8048 info.



74-KEY MICROSWITCH KEYBOARD, compact unit with case and standard query format plus control functions Erase Display-Home, In Disp

Delete in Line, Insert, EOD Erase-EOL, Char Erase-Xfer, Ctl Page-Print, Unlock Msg-Wait, Cursor direction, etc. IC's 74H04, 7442, 8048 & 5.904 MHz xtal 3" cord w/DEC95, 8.5x15x3, 5 lbs sh. #2825479, NEW, \$24.95



CORTRON 110-KEY MULTI-FUNCTION KEYBOARD with query format, 13-key numeric pad, cursor control keys, and 31 function keys: "Delete, Insert, Erase, Xmit, Xfer, Print, Kboard Unlock, Control Page, Tab Set, FCC Clear/Search FCC Renenable/Status, FCC Generate/Msg Wait, Hang Up," and others. IC's CD4051, LM393, 74LS00, 74245, CD4028, MC14028, 8048; 6.00 MHz crystal. One or two keys maybe "reject." 7.3x19x1.5, 5 lbs. #2893916, \$19.95

#113SD30/3137, as above but with KANA character function, 8748 EPROM CPU; Microswitch mfg; grey, black, blue, red keys. \$28.95

## GIBSON GIRL



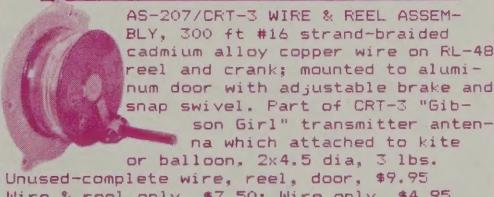
T-74/CTR-3 SEA RESCUE TRANSMITTER, famous "Gibson Girl" used in WW-II and still used by U.S. Navy; operates on distress frequencies of 500 and 8364 KHz. Powered by hand-crank generator and automatically sends SOS signals; can also be keyed by hand with 1 KHz tone or 500 KHz. Outer case dented but otherwise complete with AS-207 antenna wire, generator, and hand crank. 10x8x10, 18 lbs. Used, \$45.00

MANUAL for T-74/CRT-3, original, \$7.50

BG-155 BAGS without lacing, used, \$16 ea.

308B SIGNAL LAMP, connects to xmitter and lights when transmitting; unused, \$5.00 ea.

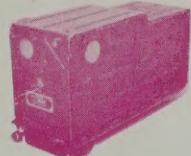
## ANTENNA WIRE & REEL



AS-207/CRT-3 WIRE & REEL ASSEMBLY, 300 ft #16 strand-braided cadmium alloy copper wire on RL-48 reel and crank; mounted to aluminum door with adjustable brake and snap swivel. Part of CRT-3 "Gibson Girl" transmitter antenna which attached to kite or balloon. 2x4.5 dia, 3 lbs. Unused-complete wire, reel, door, \$9.95

Wire & reel only, \$7.50; Wire only, \$4.95

## ARC-45 UHF TRANSCEIVER



RT-295/ARC-45 UHF TRANSCEIVER designed for light aircraft and employs 12 preset channels in the 225-399.9 MHz AM range; 1 watt minimum transmitter output. Receiver IF's: 23.49-24.39 MHz and 2.98 MHz. Audio out 50 mw into 150 ohms. Uses 2/5893 tubes in PA, 5675 as doubler, 7077, plus 28 other miniature and sub-mini tubes. Requires 150 VDC 115 ma, 300 VDC 130 ma, 27 VDC 1.7 amps. 5.3x8x14.3, 19 lbs. Used-no crystals \$75.00; Schematic \$5.

SB-328/AR CHANNEL SELECTOR, for ARC-45; 12-position channel select, tone button, volume, and 2 pilot lights w/327 lamps. 2.5x5.8x4.3, 3 lbs. Used \$5.95; Unused, \$9.95

## ADF PANCAKE LOOP



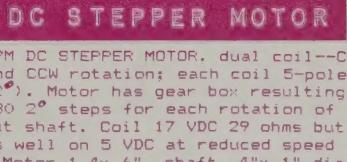
AUTOMATIC DIRECTION FINDER ANTENNA, part of ARN-89 aircraft ADF system for 100-3000 KHz range. Two mini-BNC type connections; 28 VDC required. 11.8x8x1.3, 4 lbs. #AS-2108/ARN-89 used \$16.95

## LAMBDA DC SUPPLIES



LAMBDA MODULAR DC POWER SUPPLIES, each 105-125/210-250 VAC 47-63 Hz input; output ratings ±5% @ 40°C. Used-good cond: #LOS-Z-5, 5 VDC 3 amps out; 4.8x4x2, 3 lbs sh. \$14.95

#LOS-Y-24, 24 VDC 2.3 amps; 5.6x5x2.8, 4 lbs sh. \$19.95



PM DC STEPPER MOTOR, dual coil--CW and CCW rotation; each coil 5-pole (72°). Motor has gear box resulting in 180 2° steps for each rotation of output shaft. Coil 17 VDC 29 ohms but works well on 5 VDC at reduced speed and torque. Motor 1.4x.6", shaft .4"x1.1" dia D/a 3.3"x1.5"; Airpax #A82302, \$4 ea 3/\$10.

## INDUCTION MOTOR

INDUCTION MOTOR, Eastern Air Devices J71-B, 115 VAC 60 Hz 0.25 amp input for 1/40 HP 3100 RPM output. Quiet running; good replacement motor for blowers. 3.1"x3.5" dia, shaft 0.9"x0.3" dia; 3 lbs sh. External capacitor required. #548-2239, unused \$4.95; 4 mf CAPACITOR, \$1.



## MULTI-SPEED PM MOTOR

MULTI-SPEED 24 VDC PM MOTOR can be wired for 115000 RPM 0.012 HP 0.7 amp or 3000 RPM 0.035 HP 2.3 amp operating; motor starts to turn at 9 VDC and is reversible. 6"x2.3" dia with 3.5" dia collar; geared shaft 0.6x0.4" dia. 3 lbs sh. Sperry #2960031, used, \$12.95

MINIMUM ORDER \$5.00

## WW-2 BACKPACK RECEIVER

BC-728 RECEIVER. WW-II portable or vehicular unit for the 2 to 6 Mhz AM range; four push-button tuned bands 2-2.6, 2.6-3.5, 3.5-4.5, and 4.5-6 Mhz. Has volume control, phone jack, and built-in speaker. Requires 2 VDC 1.85 amp input originally supplied by BB-54 battery (not available). W/tubes 3/1T4, 1R5, 1S5, 3S4, and vibrators VB-8-9. Radios part of SCR-593; reconditioned for the Italian Army. 11.5x6.3x5.5, 26 lbs sh; \$49.50.

AN-75 WHIP ANTENNA for BC-728 w/carrying strap; extends 12"-84", 12 w/set.

FT-338A VEHICULAR MOUNT, 8 lbs, \$12 w/set.

CD-618A BATTERY CABLE, \$5.00 w/set.

MANUAL for SCR-593, partial repro, \$8.50.

VB-8 or VB-9 VIBRATORS for spares, \$2.00 ea.

## EE-8 FIELD PHONE

EE-8 FIELD TELEPHONE, portable hand-ringing magneto type. Operates from two "D" cell batteries (not incl). Two or more can be used in a two wire system up to 17 miles in length. With carrying case and strap. 8x10x3.5, 19 lbs. Unused, \$60. MANUAL \$5.



## J-47 KEY

J-47 KEY and LEG IRON, used with RM-39, GRC-9, and other sets for CW transmissions. Includes J-37 key with brass hardware on 3x4.5 black phenolic base marked "J-47", key leg clamp for field use, and 6" cord with PL-55 plug. 3 lbs sh. Unused, \$15.95.

J-47 w/o leg iron & cord, \$11

## RM-39 FIELD CONTROL

RM-39 CONTROL UNIT, designed to allow EE-8 or similar field phone to remotely transmit and receive AM and CW radio communications. RM-39 is placed between field phone and radio set; also provides ringing circuit. Has GN-38 hand crank generator, MC-131 bell, selector for Telephone-Through-Radio-CW, and plugs & jacks for Headset, Key, and Mic. Part of RC-289 remote set. Requires 4.5 V, 15 V, and 3 V originally supplied by batteries (not available). 5x6.4x9.3, 16 lbs sh. Unused, \$22.95

MANUAL for RC-289 including RM-39, \$7.50



## PRC-25-77 ACCESSORIES

ST-138/PRC BACKPACK HARNESS for carrying PRC-25 or PRC-77 radio sets. May have minor tears and/or worn spots but completely usable; 4 lbs sh. Used, \$14.00

CW-503/PRC ACCESSORY BAG for PRC-25 and -77; holds antenna components and handset. May have minor tears and/or worn spots but usable. Used, \$6.00

H-189 HANDSET for PRC-25-77; Used, \$12.00

H-250 HANDSET for PRC-25-77; Used, \$15.00

BA-4386/PRC LONG-LIFE BATTERY for PRC-25-77; 5/80 date code, 3 lbs. Unused \$6.95; 8/40.

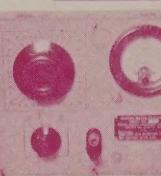
## 12-BUTTON INTERCOM

INTERCOMMUNICATION CONTROL, 12-button station select each button coupled to plug-in relay. Also solid-state audio amp/power supply, 3" speaker, volume, and holder for telephone handset. Requires 115 VAC 60 Hz; no further info. 8.6x19x7.5, 20 lbs. #T050-195032, used, \$22.



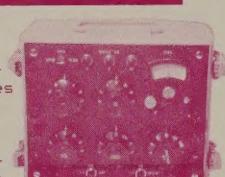
## AUDIO POWER METER

TS-585 AUDIO POWER OUTPUT METER, reads audio frequency power in milliwatts or in decibels referred to 1 MW in 600 ohms. Range: 0.1-5 MW (-10-+7 db), 1-50 MW (0-+17 db), 10-500 MW (+10-+27 db), and 100-500 MW (+20-+37 db). read on 3.5" meter. Input impedance: 2.5 to 20000 ohms in 40 steps, 2.5-3-4-5-6-8-10-12.5-15-20-25 sequence. Freq-range: 30-10000 Hz. 8.5x11.5x5.5, 16 lbs sh. Used-reparable, \$65. MANUAL for TS-585, partial repro, \$8.50



## WHEATSTONE BRIDGE

ZM-4 RESISTANCE BRIDGE, portable Wheatstone bridge used to measure DC resistance of communication and power lines to determine shorts, crosses, and grounds. Resistance measurement range 1 ohm to 1,011 M-ohms  $\pm 0.15\%$ ; resistance box range 0 to 10,110 ohms, 16-500 ma. Galvanometer indicates degree of balance in test circuit. Requires 3- "D" cell batteries. Also 22.5 to 200 VDC for more accurate readings above 1000 ohms. 5.8x7.3x8.8, 12 lbs sh. Used-reparable \$45.



## ELECTRONIC FILTER

SKL 302 DUAL VARIABLE ELECTRONIC FILTER has dual filter sections each with high and low pass filtering with high-low cut-off frequency range of 20 Hz to 200 KHz using decade scales X10-X100-X1K-X10K. High pass greater than 90 db limited by hum and noise; Low pass 60 db on X10K range, 90 db below 1 MHz, 60 db above. Insertion loss: 0 db  $\pm 1$  db for 20-20K Hz cut-off; 0 db  $\pm 2$  db for 20K-200 KHz. Input impedance 2 Megohms shunted by 32 pf. Out imped: 300 ohms. Max signal in: 6 V peak. W/tubes 10/12AT7, 0A2, 6AV6, 2/6AV5 or 6AQ5. Requires 105-125 VAC 50-60 Hz; 5.2x19x13.6, 26 lbs. Used-reparable w/partial manual, \$75

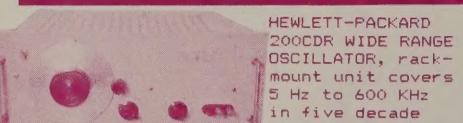
## 7 TO 11 GHZ GENERATOR

POLARAD 110B SIGNAL GENERATOR, 6.95 to 11.0 GHz CW, square wave, and sawtooth FM; has three place mechanical digital tuning. Output attenuator continuously tunable from 0.1 u-volt to 3000 uv; uncalibrated outputs of 20 mw (6.95-8 GHz) and 10 mw (8-11 GHz). Internal square wave and FM rate 800-1200 Hz; FM sweep adjustable over 5 MHz most of band. 2/A713441 transistors and tubes EL34, 2/0A2, 806B, A160034 Polarad klystron. Requires 115/230 VAC 50-60 Hz. 5.3x16.8x18.3, 50 lbs sh. Used-reparable with book, \$365.00



## H-P 200CDR OSCILLATOR

HEWLETT-PACKARD 200CDR WIDE RANGE OSCILLATOR, rack-mount unit covers 5 Hz to 600 KHz in five decade ranges;  $\pm 2\%$  de-signed accuracy. Input impedance 600 ohms. Requires 115/230 VAC 50-1000 Hz. 7x19x14.5; 26 lbs sh. Used-reparable, \$85.00



## FULL RANGE

4" DIA HIGH QUALITY 8 OHM FULL RANGE SPEAKER, heavy 3" dia x 0.9" magnet for cone. Excellent sound; 1 lb 10 oz net, 3 lbs sh., #AST-180-040, NEW, \$8.95



## R-390A/URR HF RECEIVER

R-390A/URR RECEIVER famous military set covers 0.5 to 32 Mhz AM-CW-MCW in 31 one Mhz bands read directly on mechanical digital counter. 455 KHz final IF; has four Col-lins mechanical filters allowing 2-4-8-16 KHz selectable bandwidth. Calibration points every 100 KHz; also BFO, AGC, dial locks, 600 ohm audio out, Line and Carrier Level meters. Rackmount; no covers. Requires 115/230 VAC 60 Hz. 10.5x19x16.8; 95 lbs (UPS in 2 pkgs). Used-reparable, \$215.00 Checked, \$335.00; Manual partial repro \$15. R-390A excellent-checked (extra clean) \$400.



REPLACEMENT PARTS for R-390A, removed from used equipment but guaranteed, usable. Please specify chassis part numbers when ordering.

AUDIO AMP, repairable \$30; Checked \$45. BFO Z-502 with flex coupling, \$15.00 CLAMPS for gears (specify gear), \$1.50 ea COUNTER DIAL, mechanical, \$15.00 CRYSTALS, 200 KHz (when available), \$18. CRYSTALS, specify frequency \$10 ea; 5/\$35 CAPACITOR C-603 or C-606, \$2.00 ea DIAL LOCK assembly with knob, \$10.00 DIAL ZERO shaft with knob, \$10.00 FILTER, BANDPASS FL-601, \$10.00 FILTER, MECHANICAL, checked: 2 or 4 KHz \$50 8 KHz, \$40.00; 16 KHz \$30.00 GEARS, #39 or #21, \$6.00 ea GEARS, other than above, \$3 ea; 5/\$10.00 KNOBS, Megacycle or Kilocycle, \$6.00 ea KNOBS for RF, IF, Audio etc., \$1.50 ea KNOBS f/ Ant Trim, Dial Lock, etc, \$1.25 ea POTS for RF/IF, Audio, Meter Level, \$2 ea PTO/VFO oscillator assembly, checked \$45. POWER SUPPLY less 2625 tubes, \$45.00 PTO/VFO if Collins manufacture, \$60. RELAY, ANTENNA, \$15.00 RESISTOR TUBE, RT510/3TF7, checked \$10 ea SLUGS for RF transformers, \$4.00 ea SLUG RACKS with springs, \$3.00 ea SWITCH, On/Off/Standy, \$5.00 SWITCHES f/front panel except above, \$3 ea TRANSFORMER, audio output, \$9.00 ea TRANSFORMERS, RF or IF, \$8.00 ea IF AMPLIFIER DECK, checked, \$150.00 Meters and complete RF decks not available.

## TCS RADIO SET

WW-II; includes TCS receiver, transmitter, and control box described below. 100 lbs sh UPS in 2 pkg.; Unused-not checked, \$185.00

TCS RECEIVER, covers 1.5-12 MHz AM-CW in 3 bands continuously tuned; provision for 4 preset channels. Audio: 1.5 MW into 500 ohms. W/tubes 3/12SK7, 12SA7, 12S07, 2/12A6. Requires 12 VDC and 220 VDC 100 ma. 11.8x11.8x13.8.

TCS TRANSMITTER, 1.5-12 Mhz in three bands at 40 watts CW or 20 W AM power output. Has VFO, provision for 4 preset channels, and 0-3 RF ammeter. W/tubes 4/1625, 3/12A6. Requires 12 VDC, 400-440 VDC 200 ma; 11.8x11.8x13.8.

TCS SPEAKER-CONTROL, has 5" dia 6 ohm PM speaker, 500:6 ohm AF transformer, volume control, and headset/mic jacks; 5.5x7.5x3.5.

TCS ACCESSORY ITEMS  
 #211881 12 VDC DYNAMOTOR SUPPLY f/ Rx/Tx \$22.  
 #211330 12/24 VDC SUPPLY f/Rx-Tx, 30 lbs \$27.  
 CABLES for Rx, Tx \$5 ea w/set.  
 NOISE LIMITER KIT for receiver, \$3.00  
 MANUAL for TCS set, partial repro, \$12.00



## 13 KV SUPPLY

WABASH HIGH VOLTAGE POWER SUPPLY rated 13.5 KV 0.5 MA peak from 120 VAC 60 Hz 30 W max. input. 5.5x6x1.8, 6 lbs #215-0167, unused \$9.95

